5A
Sect B

Instruments

621.317.723

2116. New system of quadrant electrometers. G. NADZHAKOV, E. G. NADZHAKOV AND P. ILKOV. *C.R. Acad. Bulg. Sci.*, 3, 15–18 (*April–June and Oct–Dec.*, 1950) *In Russian.*

Special quadrant surfaces have been found for which the derivatives of the capacitances with respect to the angle are linear functions of the angle. It follows that the electric restoring torque is independent of angle and the scale remains linear. Good agreement was obtained between theory and experiment. A.

NADZHAKOV, G.

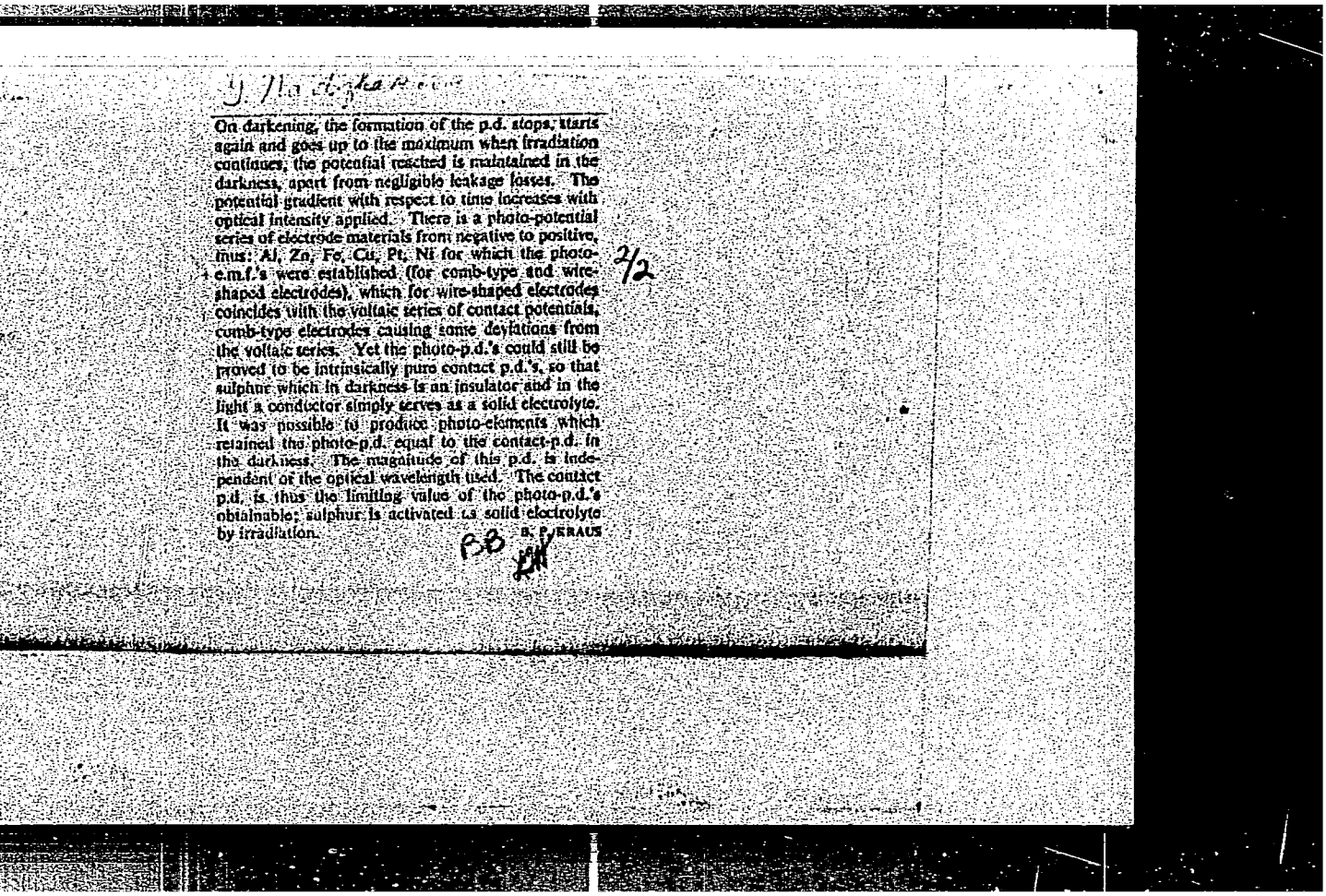
BULG.

537.312.5

3487. Photovoltaic effect in polycrystalline sulphur under lateral irradiation. G. NADZHAKOV AND R. ANDREICHIN. *Izv. Bulg. Akad. Nauk*, 2, 293–320 (1951) *In Bulgarian.*

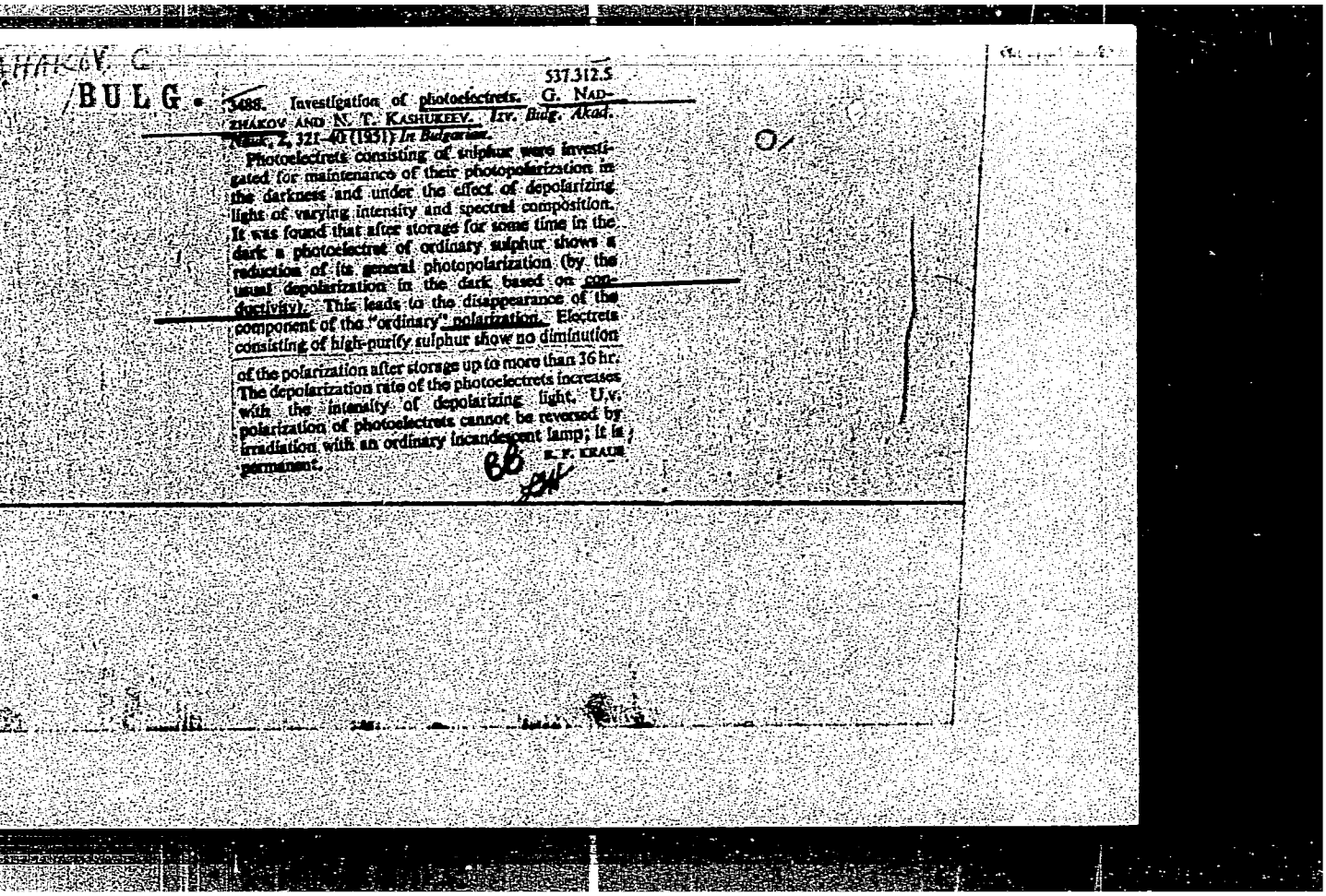
A new photovoltaic effect in sulphur is described, differing from the previously known effects by the fact that both electrodes were uniformly irradiated from one side only. The photo-p.d. resulting was measured by electrometer the readings of which were photographed. In lateral irradiation of photo-depolarized sulphur the electrometer, after disconnection, showed a deflection corresponding to a photo-p.d. which is a function of time. The photo-p.d. of each photoelement has a value depending on the electrode material. In the evaluation the maximum values (saturation values) of the photo-p.d. were used.

1/2



On darkening, the formation of the p.d. stops; starts again and goes up to the maximum when irradiation continues; the potential reached is maintained in the darkness, apart from negligible leakage losses. The potential gradient with respect to time increases with optical intensity applied. There is a photo-potential series of electrode materials from negative to positive, thus: Al, Zn, Fe, Cu, Pt, Ni for which the photo-e.m.f.'s were established (for comb-type and wire-shaped electrodes), which for wire-shaped electrodes coincides with the voltaic series of contact potentials, comb-type electrodes causing some deviations from the voltaic series. Yet the photo-p.d.'s could still be proved to be intrinsically pure contact p.d.'s, so that sulphur which in darkness is an insulator and in the light a conductor simply serves as a solid electrolyte. It was possible to produce photo-elements which retained the photo-p.d. equal to the contact-p.d. in the darkness. The magnitude of this p.d. is independent of the optical wavelength used. The contact p.d. is thus the limiting value of the photo-p.d.'s obtainable; sulphur is activated as solid electrolyte by irradiation.

B. PERAUS



NADZHAKOV, G.

BULG.

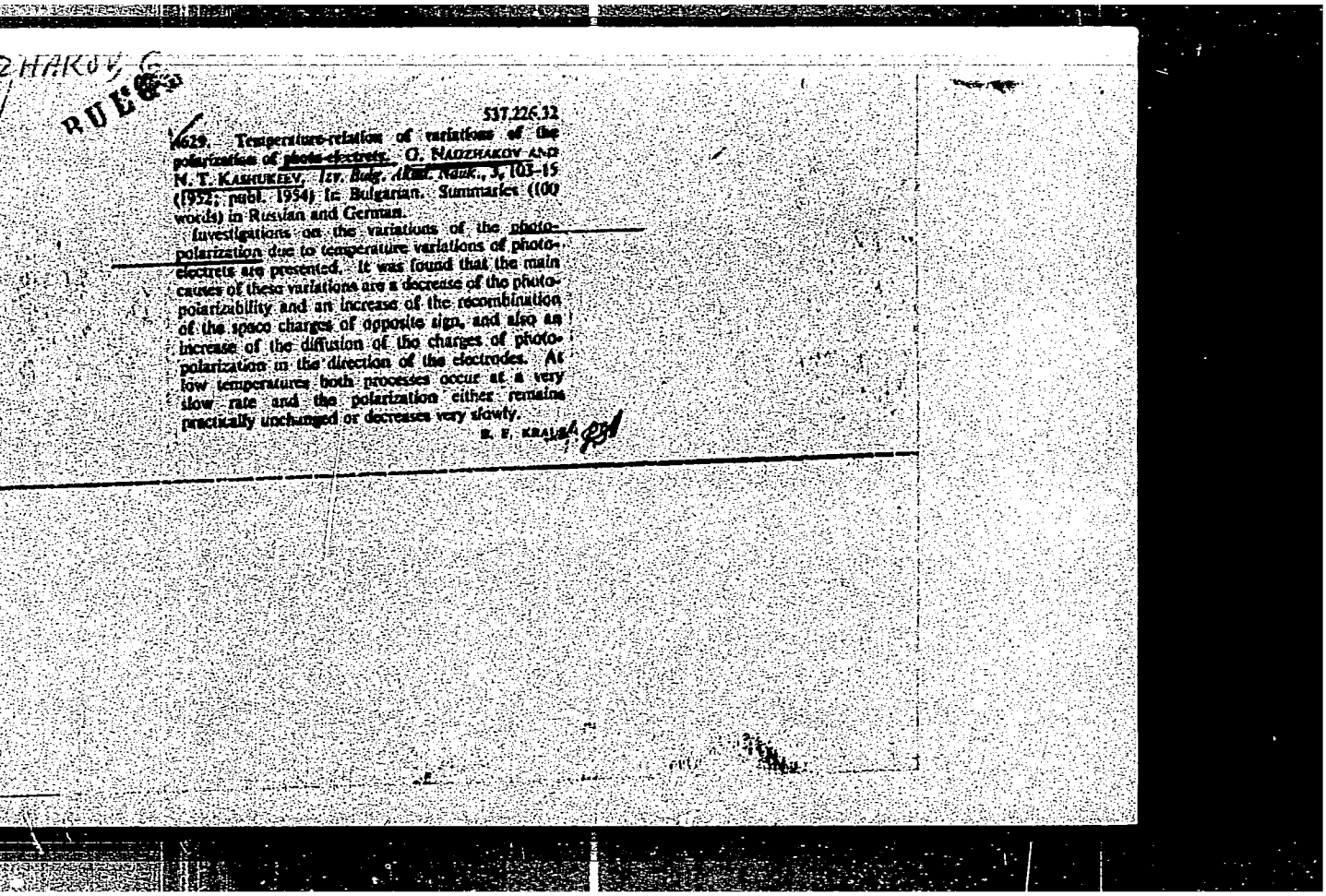
537.312.5

3488. Investigation of photoelectrets. G. NADZHAKOV AND N. T. KASHUKEEV. *Izv. Bulg. Akad. Nauk*, 2, 321–40 (1931) *In Bulgarian.*

Photoelectrets consisting of sulphur were investigated for maintenance of their photopolarization in the darkness and under the effect of depolarizing light of varying intensity and spectral composition. It was found that after storage for some time in the dark a photoelectret of ordinary sulphur shows a reduction of its general photopolarization (by the usual depolarization in the dark based on conductivity). This leads to the disappearance of the component of the "ordinary" polarization. Electrets consisting of high-purity sulphur show no diminution of the polarization after storage up to more than 36 hr. The depolarization rate of the photoelectrets increases with the intensity of depolarizing light. U.v. polarization of photoelectrets cannot be reversed by irradiation with an ordinary incandescent lamp; it is permanent.

E. F. KRAUS

*An Electrometric Method of Measuring the Volta Effect. G. Nadzhakov (*Izvest. Bulg. Akad. Nauk*, 1951, [Fiz.], 2, [illegible] (French summary, 355-356)).—[In Bulgarian]. A method for the direct measurement of contact (Volta) potentials is described. The apparatus consists of an asymmetric quadrant electrometer in which the electrostatic torsion produced by a p.d. is balanced by mech. torsion, and a specially designed compensating system which permits accurate detn. of Volta potentials by either zero or the displacement method. The second method is suitable for continuously following and recording the changes in Volta potentials. The apparatus can be used for measurements in vacuum.—S. K. J.



NAZZHAKOV, G.

RUE

537.226.32

4629. Temperature-relation of variations of the polarization of photo-electrets. G. NAZZHAKOV AND N. T. KASHUKEEV. *Izv. Inst. Khim. Nauk.*, 3, 103–15 (1952; publ. 1954) In Bulgarian. Summaries (100 words) in Russian and German.

Investigations on the variations of the photo-polarization due to temperature variations of photo-electrets are presented. It was found that the main causes of these variations are a decrease of the photo-polarizability and an increase of the recombination of the space charges of opposite sign, and also an increase of the diffusion of the charges of photo-polarization in the direction of the electrodes. At low temperatures both processes occur at a very slow rate and the polarization either remains practically unchanged or decreases very slowly.

E. F. KRAUSZ

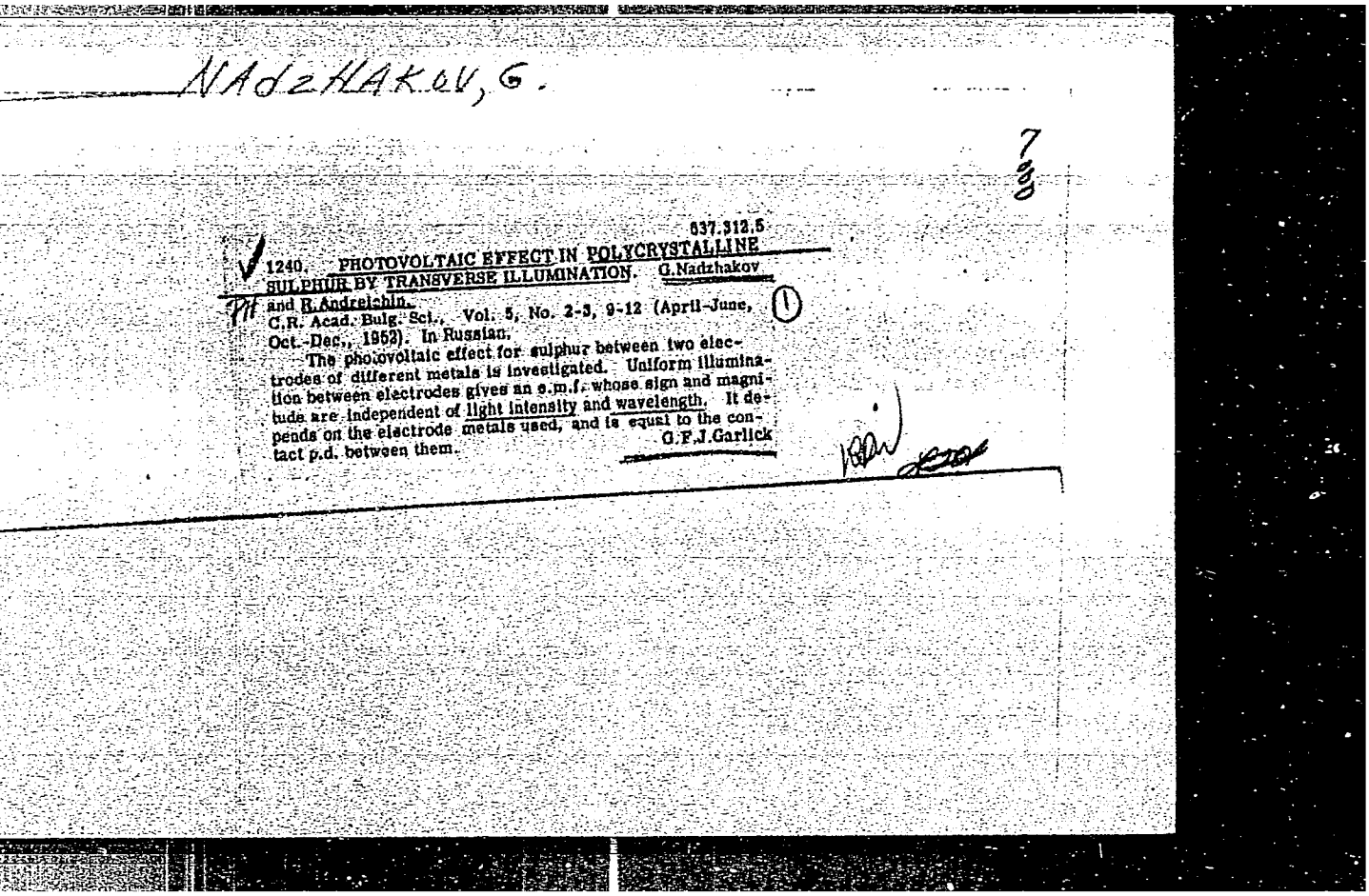
NADZHAKOV, G.

537.312.5

1239. INVESTIGATIONS OF ELECTRON RELEASE.
G.Nadzhakov and N.T.Kashukeev.
C.R. Acad. Bulg. Sci., Vol. 5, No. 1, 5-6 (Jan.-March, 1952).
In Russian.

The influence of light of various spectral combinations upon electron release from sulphur is examined.

C.G.Morgan



NADZHAKOV, G.

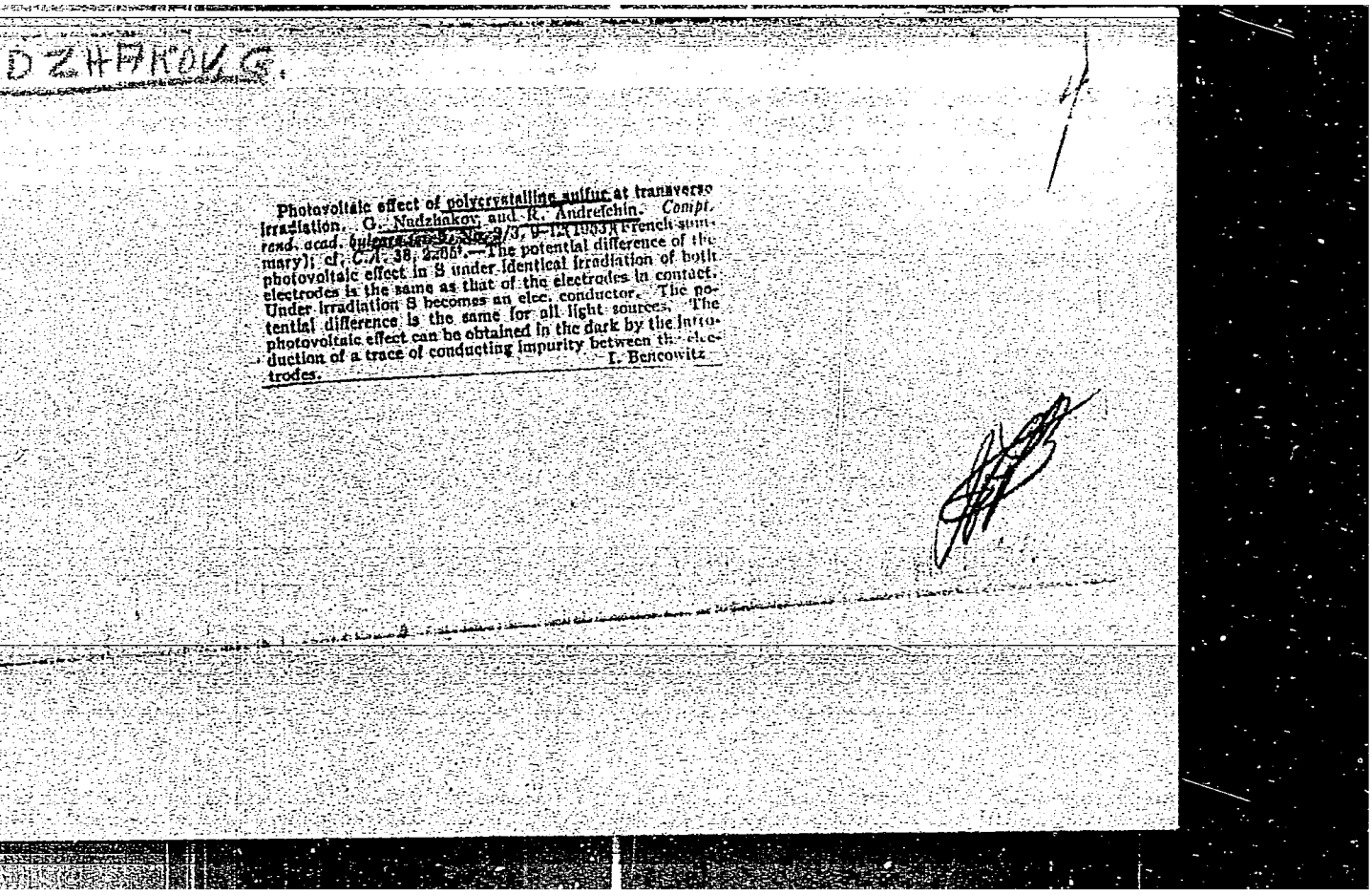
7

637.312.5

1240. PHOTOVOLTAIC EFFECT IN POLYCRYSTALLINE SULPHUR BY TRANSVERSE ILLUMINATION. G.Nadzhakov and B.Andreichin. C.R. Acad. Bulg. Sci., Vol. 5, No. 2-3, 9-12 (April-June, Oct.-Dec., 1952). In Russian.

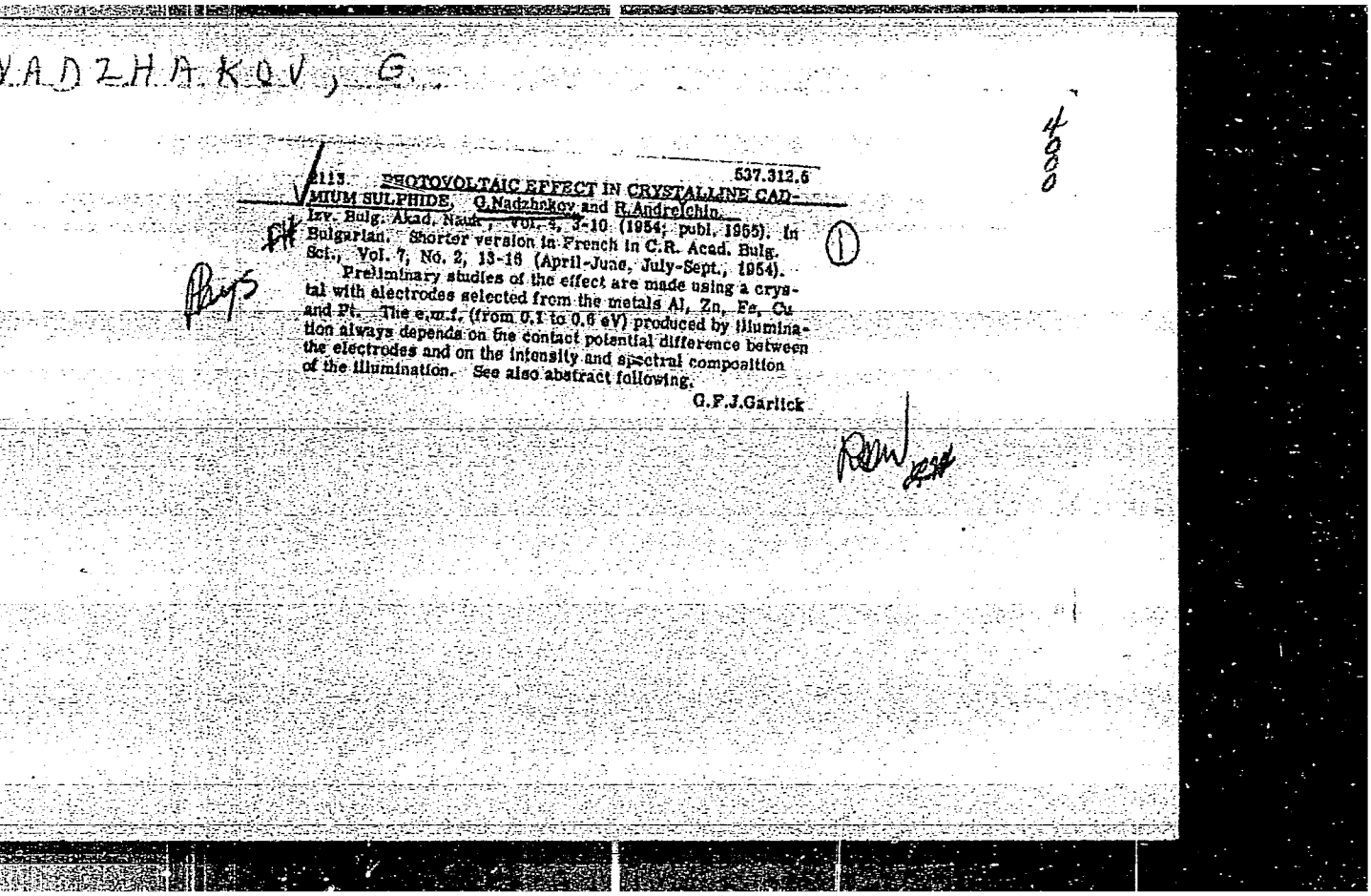
The photovoltaic effect for sulphur between two electrodes of different metals is investigated. Uniform illumination between electrodes gives an e.m.f. whose sign and magnitude are independent of light intensity and wavelength. It depends on the electrode metals used, and is equal to the contact p.d. between them.

G.F.J.Garlick



DZHAKOV G.

Photovoltaic effect of polycrystalline sulfur at transverse irradiation. G. Nadzhakov, and R. Andreichin. *Compt. rend. acad. bulgare sci.* 3, No. 3, 9-12 (1950) (French summary); cf. *C.A.* 38, 2265.—The potential difference of the photovoltaic effect in S under identical irradiation of both electrodes is the same as that of the electrodes in contact. Under irradiation S becomes an elec. conductor. The potential difference is the same for all light sources. The photovoltaic effect can be obtained in the dark by the introduction of a trace of conducting impurity between the electrodes. I. Bencowitz



NADZHAKOV, G.

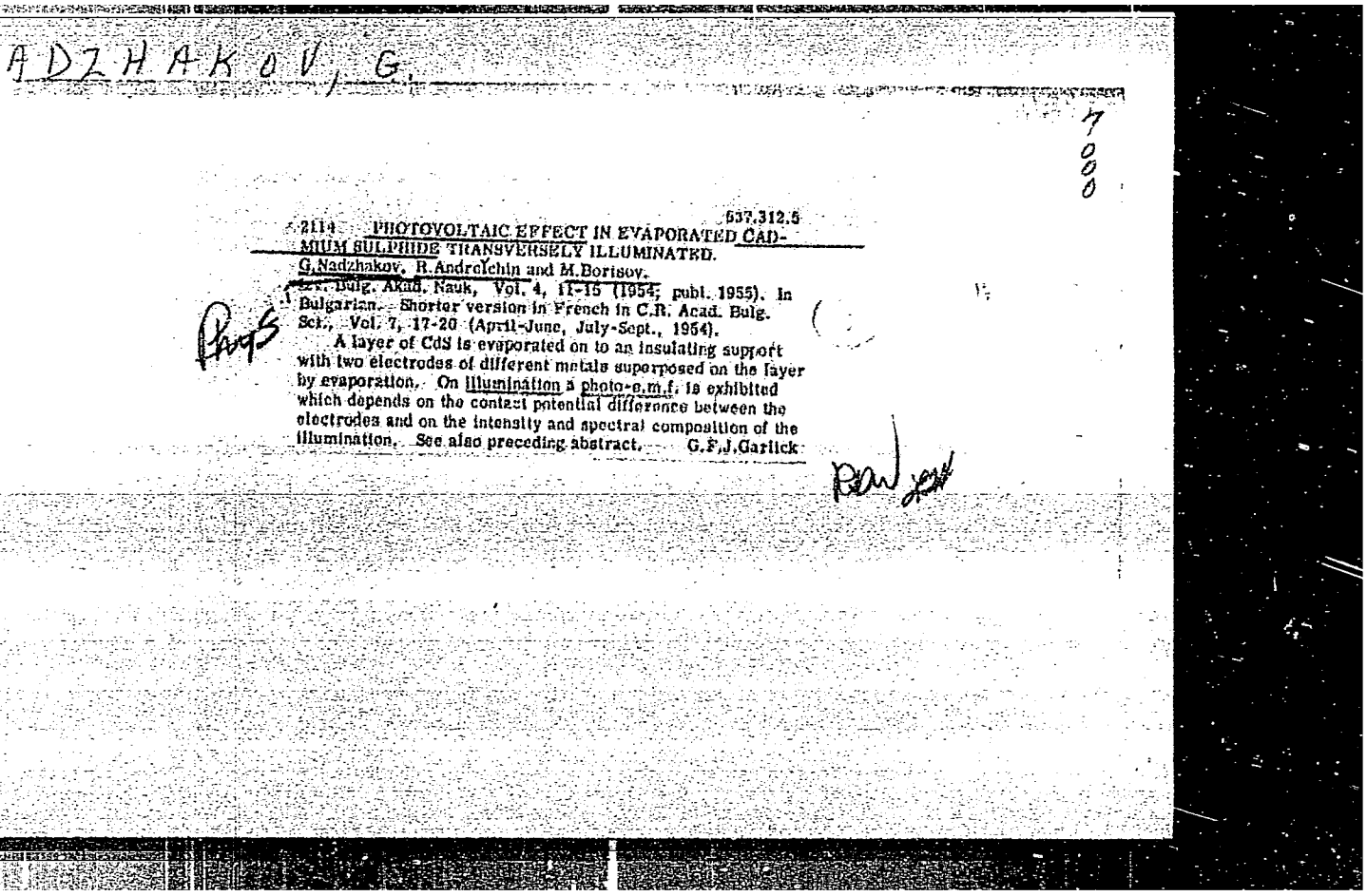
4900

2113. PHOTOVOLTAIC EFFECT IN CRYSTALLINE CADMIUM SULPHIDE. G.Nadzhakov and R.Andrelchin. Izv. Bulg. Akad. Nauk., Vol. 4, 3-10 (1954; publ. 1955). In Bulgarian. Shorter version in French in C.R. Acad. Bulg. Sci., Vol. 7, No. 2, 13-16 (April-June, July-Sept., 1954). 537.312.6

Preliminary studies of the effect are made using a crystal with electrodes selected from the metals Al, Zn, Fe, Cu and Pt. The e.m.f. (from 0.1 to 0.6 eV) produced by illumination always depends on the contact potential difference between the electrodes and on the intensity and spectral composition of the illumination. See also abstract following.

G.F.J.Garlick

Phys



ADZHAKOV, G.

7000

537.312.5

2114 PHOTOVOLTAIC EFFECT IN EVAPORATED CADMIUM SULPHIDE TRANSVERSELY ILLUMINATED.
G.Nadzhakov, R.Andreichin and M.Borisov.
Izv. Inst. Fiz. Bulg. Akad. Nauk, Vol. 4, 11-15 (1954; publ. 1955). In Bulgarian. Shorter version in French in C.R. Acad. Bulg. Sci., Vol. 7, 17-20 (April-June, July-Sept., 1954).

A layer of CdS is evaporated on to an insulating support with two electrodes of different metals superposed on the layer by evaporation. On illumination a photo-e.m.f. is exhibited which depends on the contact potential difference between the electrodes and on the intensity and spectral composition of the illumination. See also preceding abstract. G.F.J.Garlick

NADZHAKOV, G.

537.312.5

1241. PHOTOCONDUCTIVITY OF CAST (DISKS OF) SULPHUR. G.Nadzhakov and N.T.Kashukeev. C.R. Acad. Bulg. Sci., Vol. 7, No. 3, 5-8 (Oct.-Dec., 1954). In Russian.

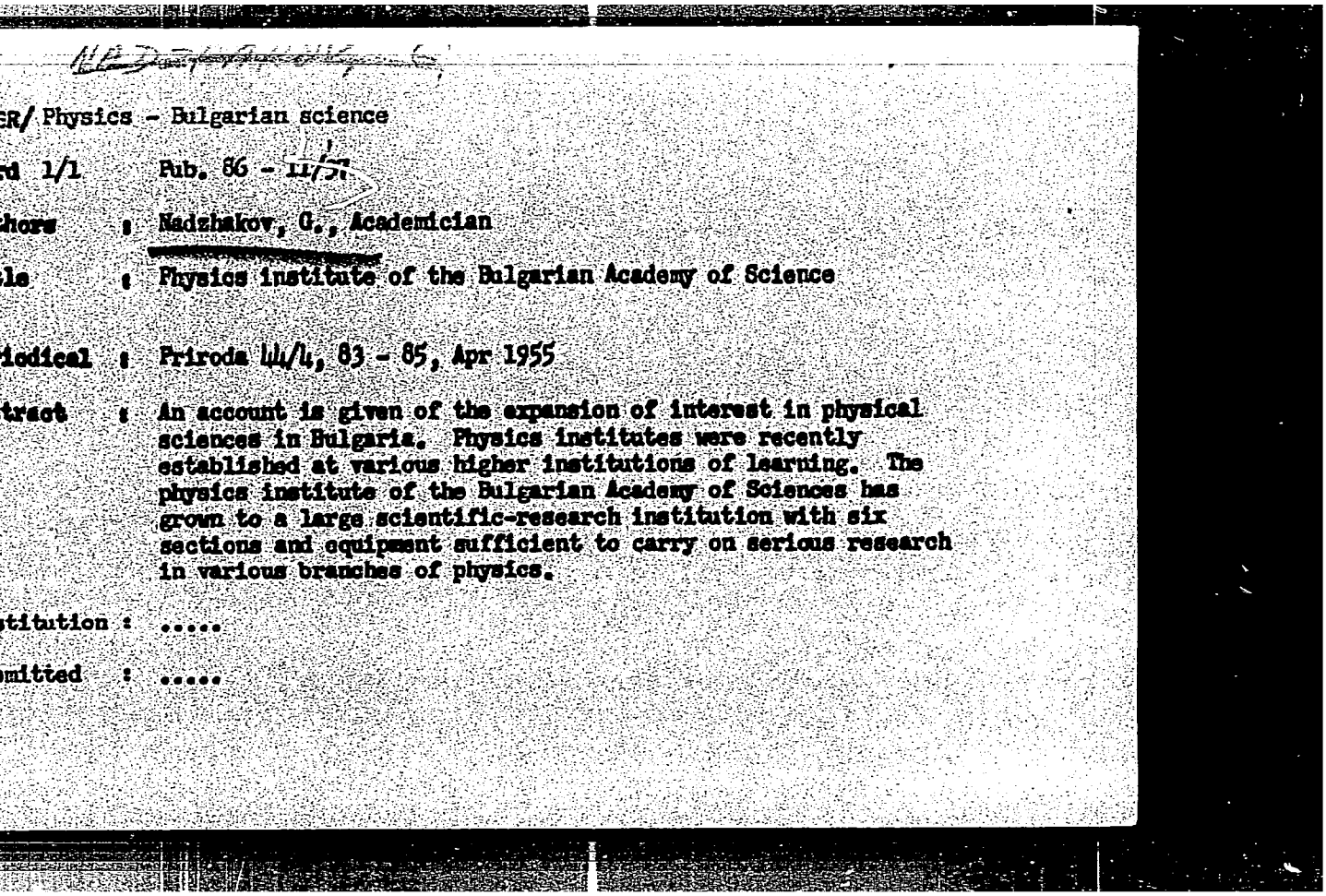
A specimen consisting of three isolated regions of a cast disk was connected in a bridge circuit with an electrometer as detector, and the disk illuminated on one side. The out-of-balance signal was recorded photographically. Irradiation with infrared helps considerably the increase in conduction.

C.A.Hogarth

Nadzhakov, G.

3

The negative photoeffect in molten sulfur. G. Nadzhakov and N. T. Kashukeev. [illegible] No. 3, 9-12(1954)(Publ. 1955)(French summary).—The decrease in neg. photoeffect of molten S is ascribed to contaminations. As the latter are removed by electrolytic methods the neg. effect disappears. The app. used and procedure are illustrated and described. J. S. Ioffe



ER/ Physics - Bulgarian science

rd 1/1 Pub. 86 - 11/51

thors : Nadzhakov, G., Academician

ile : Physics Institute of the Bulgarian Academy of Science

iodical : Priroda 44/4, 83 - 85, Apr 1955

tract : An account is given of the expansion of interest in physical sciences in Bulgaria. Physics institutes were recently established at various higher institutions of learning. The physics institute of the Bulgarian Academy of Sciences has grown to a large scientific-research institution with six sections and equipment sufficient to carry on serious research in various branches of physics.

stitution : .....

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OZHAKOV,G

OZHAKOV,G Photovoltaic elements lacking a blocking layer from evaporated CdS. In German. p.1

.. 9, no 2, Apr./June 1956
klady
ENCE
Sofiia, Bulgaria

: East European Accession, Vol, 6, No. 3, March 1957

BULGARIA/Electricity - Semiconductors G-3

Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 27880

Author : Nadjakov G., Andrejtschin R., Balabanov St., Stanislavova J.
Inst : Physics Institute, Bulgarian Academy of Sciences, Sofia, Bulgaria.
Title : Comparative Investigations of the Longitudinal and Transverse Photovoltaic Effects in Samples of Cadmium Sulfide Obtained by Evaporation.

Orig Pub : Dokl. Bolg. AN., 1957, 10, No 4, 277-280

Abstract : The authors have investigated the principal characteristics of the photovoltaic effect in specimens of CdS, obtained by evaporation, with different (Al and Au) electrodes in the case of longitudinal and transverse illumination (relative to the electrodes). Data are given on the dependence of the photo emf and the photocurrent i on the intensity I. It is shown that in most cases the photovoltaic effect has the same features: i depends on I linearly, and the dependence of $\mathcal{E}$ on I is described by a curve that has saturation. No rectifying effect was observed. In all cases the photo emf is of the purely barrier type.

Card : 1/1

NADJAKOV G.

BULGARIA/Electronics - Electron and Ion Emission. H

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1456

Author : Nadjakov, G., Vassiliev, V., Balatanov, S.
Inst : -
Title : On the Work Function of Gold and Aluminum During Vacuum-Air Transition

Orig Pub : Dokl. Bolg. AN 1958, 11, No 6, 461-464

Abstract : A method of contact difference of potential was used to measure the work function of freshly evaporated gold and aluminum in vacuum and in air with respect to old gold, passivated in air, taken to serve as a standard. The work function of the gold standard φ_{Au} was assumed to be 4.8 ev (its average value, obtained in several other experimental investigations). By measurement in vacuum, values φ_{Au} = 4.48 and φ_{Al} 3.15 ev were obtained. The variation of the work function with time in air for gold and aluminum

Card 1/2

- 74 -

BULGARIA/Electronics - Electron and Ion Emission. H

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1456

is plotted. Investigations have shown that owing to the interaction with the air, one can assume that there exists in metals two types of surface variations: irreversible, due probably to chemical changes in the surface, and reversible -- absorption of gases and vapors, contained in the surrounding atmosphere.
Bibliography, 10 titles.

Card 2/2

S/058/61/000/010/090/100
A001/A101

AUTHOR: Nadzhakov, G., Nadzhakova, Ye.G.

TITLE: Symmetric electrometric method of measuring contact potential difference

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 283, abstract 10Zh4 ("Izv. Bolg. AN. Otd. fiz.-matem. i tekhn. n. Ser. fiz.", 1959, v.7, 269-281, Bulgarian, Russian and French summaries)

TEXT: The authors propose a change of the asymmetric method of measuring contact potential difference described earlier (Nadzhakov, G., "Izv. Bolg. AN", Ser. fiz. 1961, v. 2, 341-356). Torsional compensation, used earlier, is employed again with the difference that the voltage being measured in the first method plays here the role of auxiliary one, the additional contact potential difference, existing between the quadrant pair and the needle, is measured, as well as the voltage applied to compensate this difference. An ordinary connection is employed instead of the double one; the auxiliary voltage is applied only to one pair

Card 1/2

S/058/61/000/010/090/100
A001/A101

...ric electrometric method ...

...adrants, the second pair and the needle being grounded. Experimental results ...presented, which show that the method assures a higher accuracy of measure... than other methods employed up to now.

V. K.

[...tracter's note: Complete translation]

... 2/2

NADZHAKOV, G., akad.

Bulgarian physics and its achievements during the 15 years of people's rule. Godishnik fiz mat 53 no.2:1-13 '58/'59 [publ. '60].

NADZHAKOV, G., akad.

New high-mountain laboratory for research on cosmic rays on Stalin Peak. Spisanie BAN 5 no.3:66-67 '60. (EEAI 10:5)
(Bulgaria--Cosmic rays)

9,4179 (1114,1137)
26.1512

31427
B/502/60/008/000/001/003
D260/D304

AUTHOR: Nadzhakov, G., and Andreychin, R.

TITLE: Contact-potential photovoltaic effect

SOURCE: Bulgarska akademiya na naukite. Fizicheski institut. Izvestiya na fizicheskiya institut s ANEB, v. 8, 1960, 5-15

TEXT: The authors discovered and studied a phenomenon which consists of the appearance of an electromotive force and flow of current when the setting in motion of the charge carriers released by the light is due to the contact potential difference between the electrodes. This phenomenon is called contact potential - photovoltaic effect (CPPE). The goal of the article is to summarize the main characteristics of the effect and to establish its place among the other known photovoltaic effects. This effect is demonstrated in its purest form in semi-conductors which have two ohmic contacts of different metals deposited on them, and when illumination is transversal and absolutely uniform along the entire layer, it is

Card 1/5

Contact-potential photovoltaic ...

said that the effect can exist simultaneously with the remaining types of photovoltaic phenomena, as well as independently. No photovoltaic effect is to be observed with electrodes of one and the same metal whereas with electrodes of two different metals, the polarity of the photoelectromotive force follows exactly the sign of the contact potential difference between the electrodes. It has been demonstrated for photoelements of sulphur that the photoelectromotive force is exactly equal in sign and value to the contact potential difference between the electrodes, and that it depends neither on the intensity nor on the spectral composition of the light. In the case of semi-conductors, the sign of the electromotive force also follows the polarity of the contact potential difference between the electrodes; its value depends on the intensity of the light, showing a tendency to approximate a saturated value equal or close to the contact potential difference between the electrodes. The dependence of the current on the intensity of light is in most cases close to linear. Photoelements of evaporated films of CdS, PbSm Ag_2S and of crystals of CdS, NaCl and PbS were inve-

ontact-potential photovoltaic ...

tigated. In the case of thin layers of CdS the effect does not depend on the direction or manner of illumination. Tests on transersal and longitudinal illumination are illustrated graphically. etailed investigations on the contacts between the metal and the emi-conductor indicate that three types of photoelements are obained, although the technology is not yet standardized sufficiently: (1) With both ohmic contacts, (2) with variator contacts, and 3) with rectifying contacts. All three types of photoelements rove that the CPPE is independent of the type of contacts. The independence of the CPPE from the structural one has been demonstraed in the case of PbS and the photoelements obtained show only the irst one. In semi-conductors of purely ionic or mixed conductivity t was established that in cases of different electrodes the CPPE s added to the galvanic current existing in the dark. A working ypothesis has been set up for a qualitative explanation of the henomenon. The authors assume that the electromotive force is due o the existing contact-potential difference between the electrodes, ts manifestation and flow of current occurring when the light releases suitable charge carriers in the interior of the semi-con-

ard 3/5

uctors, in a manner analogous to the ions obtained in the galvanic lements through electrolytic dissolution. In order to differentiate more precisely between the CPPE and the remaining simple photovoltaic effects, Tauc's classification (Ref. 21: Rev. of Modern hysics, v. 29, 1957, 308-324) was revised and a new variant suggested, namely the five simple photovoltaic effects should be situated along a circle. By strictly observing their division into arrier and non-barrier ones, contact and non-contact, the gradual ransition upon a closed circle becomes apparent. In this particular instance, the CPPE effect which holds a place between the Dember ffect and the photoeffect in barrier layer, bears a certain similarity to the Dember effect, in that they are both non-barrier ones, ut it is not homogeneous and the electrodes play no part in the ember effect; the CPPE depends in the first place on the electrodes nd in its pure form does not depend on the nonhomogeneity of the llumination. The difference between the CPPE and the one in barrier layers is that the former is non-barrier while the latter is arrier. However, they are similar in that in the first case the harge carriers are set in motion by the contact potential of the

lectrodes, in the second case this is done by the potential difference at the contact between metal - semi-conductor. There are 6 figures and 31 references: 23 Soviet-bloc and 8 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: Y. T. Sihvonen and D. R. Boyd: Ohmic probe contacts to CdS crystals, J. Appl. Phys., 29, (1958), 1143-1145; R.W. Smith, Properties of ohmic contacts to cadmium sulfide single crystals, Phys. Rev., 97, (1955), 1525-1530; Jan Tauc: Generation of an emf in semiconductors with non-equilibrium current carrier concentration. Rev. of Modern Physics, v. 29, 1957, p. 308-324; J.B. Kramer, Electrician, 93, 1924, 497.

SUBMITTED: October 10, 1959

Card 5/5

36800

S/137/62/000/004/082/201
A052/A101

18.8100

AUTHORS: Nadzhakov, G., Balabanov, St., Dzhurova, V.

TITLE: The effect of gas discharge on the contact potential of metal surfaces

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 8, abstract 4I51 ("Dokl. Bolg. AN", 13, no. 6, 1960, 673 - 676, English summary)

TEXT: The effect of gas discharge on the contact potential U_c of Au, In and Ga was investigated. The samples were produced by evaporating these substances on a brass sublayer, and after several days' air exposure they were placed in the gas discharge tube. After the termination of gas discharge, taking place at 10 mm mercury column, the difference ΔU_c between the investigated sample and the reference Au-electrode was measured. A noticeable effect of gas discharge on ΔU_c was found, as well as a considerable asymmetry in the change of ΔU_c depending on the sign of voltage applied to the sample. On the basis of the results a conclusion is drawn that at a discharge a predominant adsorption of

Card 1/2

S/137/62/000/004/082/201
A052/A101

The effect of gas discharge on...

negative ions takes place, which is also found in experiments without a constant voltage.

I. Dykman

[Abstracter's note: Complete translation]

Card 2/2

NADZHAKOV, Georgi, akad.

The Pugwash conferences on the problems of science and international relations, Sept. 5-16, 1961. Spisanie BAN 6 no.4:31-42 '61.

S/058/62/000/003/085/092
A061/A101

AUTHORS: Nadzhakov, G., Balabanov, St., Dzhurova, V.

TITLE: Effect of gaseous discharge on the contact potential of metal surfaces

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 56, abstract 3Zh415 ("Izv. Fiz. in-t s ANEB", 1961, v. 9, no. 1, 69-79, Bulgarian; Russian, English summary)

TEXT: The article is a more detailed description of a previously published investigation by the same authors (see RZhFiz, 1961, 11Zh68). There are 16 references.

[Abstracter's note: Complete translation]

Card 1/1

S/058/62/000/004/111/19
A061/A101

AUTHORS: Nadzhakov, G., Antonov, A., Zadorozhnyy, G.

TITLE: Conditions for dark conservation of photoelectret photopolarization

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 4I, abstract 4I29 (Dokl. Bolg. AN, 1961, 14, no. 4, 329-332, English summary)

TEXT: The conditions for dark conservation of photopolarization in photoelectrets consisting of single crystals or polycrystals of S, of polycrystalline anthracene, of powdery S - CdS mixtures, and of a pressed anthracene - CdS mixture were investigated. The initial depolarization current on illumination of the polarized photoelectret was taken as the measure of photopolarization. The initial decrease of polarization is slowed down when the polarizing voltage is increased. The drop of photopolarization of the polycrystalline anthracene electret subjected to high pressure is slowed down when pressure is increased to 2 t/cm^2. The degree of photopolarization drops at the same time. With electrets subjected to a pressure $>$ 1 t/cm^2, where the density of the photoelectret mass does not change any more, the characteristics of conservation and

Card 1/2

onditions for dark conservation ...

he degree of photopolarization do not change any longer. This is explained by he decrease of the number of electrons localized in shallow traps connected with he surface of individual crystalline particles of the electret.

V. Lyubin

[Abstracter's note: Complete translation]

Card 2/2

NADZHAKOV, Georgi, akad.

Bulgarian physics during the 25 years [illegible].
Spisanie BAN 9 no.3:3-19 '56.

NADZHAKOV, Georgi, akad.

Georgi Dimitrov, a great son of the Bulgarian people and fiery fighter for communism. Fiz mat spisanie BAN 5 no.2:81-85 '62.

1. Chlen na Redaktsionnata kolegiia, "Fiziko-matematichesko spisanie".

NADZHAKOV, G., akad.; ANDREICHIN, R., d-r; BALABANOV, St.; STANISLAVOVA, IU.

Presence of a locking layer in the transversal photovoltaic effect in evaporated cadmium sulfide. Izv fiz atom BAN 9 no.2:17-23 '62.

1. Chlen na Redaktsionnata kolegiia i otgovoren redaktor, "Izvestiia na Fizicheskiia institut s ANEB" (for Nadzhakov). 2. Chlen na Redaktsionnata kolegiia, "Izvestiia na Fizicheskiia institut s ANEB" (for Andreichin).

NADZHAKOV, G., akad.; ANDREICHIN, R., d-r; STANISLAVOVA, IU.

Preliminary studies on the spectral distribution of the transversal photovoltaic effect in evaporated layers of cadmium sulfide. Izv fiz atom BAN 9 no.2:25-29 '62.

1. Chlen na Redaktsionnata kolegiia i otgovoren redaktor, "Izvestiia na Fizicheskiia institut s ANEB" (for Nadzhakov).
2. Chlen na Redaktsionnata kolegiia, "Izvestiia na Fizicheskiia institut s ANEB" (for Andreichin).

NADZHAKOV, G., akad; BALABANOV, S.

Formation of the surface photoelectric state in gas discharge.
Doklady BAN 15 no.4:361-364 '62.

1. Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy akademii nauk" (for Nadzhakov).

NADZHAKOV, G., akad.; ANTONOV, A.; ZADOROZHNYY, G. [Zadorozhni, G.]

Influence of excitation on the photoelectret polarization of monocrystal sulfur in dark. Doklady BAN 15 no.8:805-808 '62.

1. Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy Akademii nauk" (for Nadzhakov).

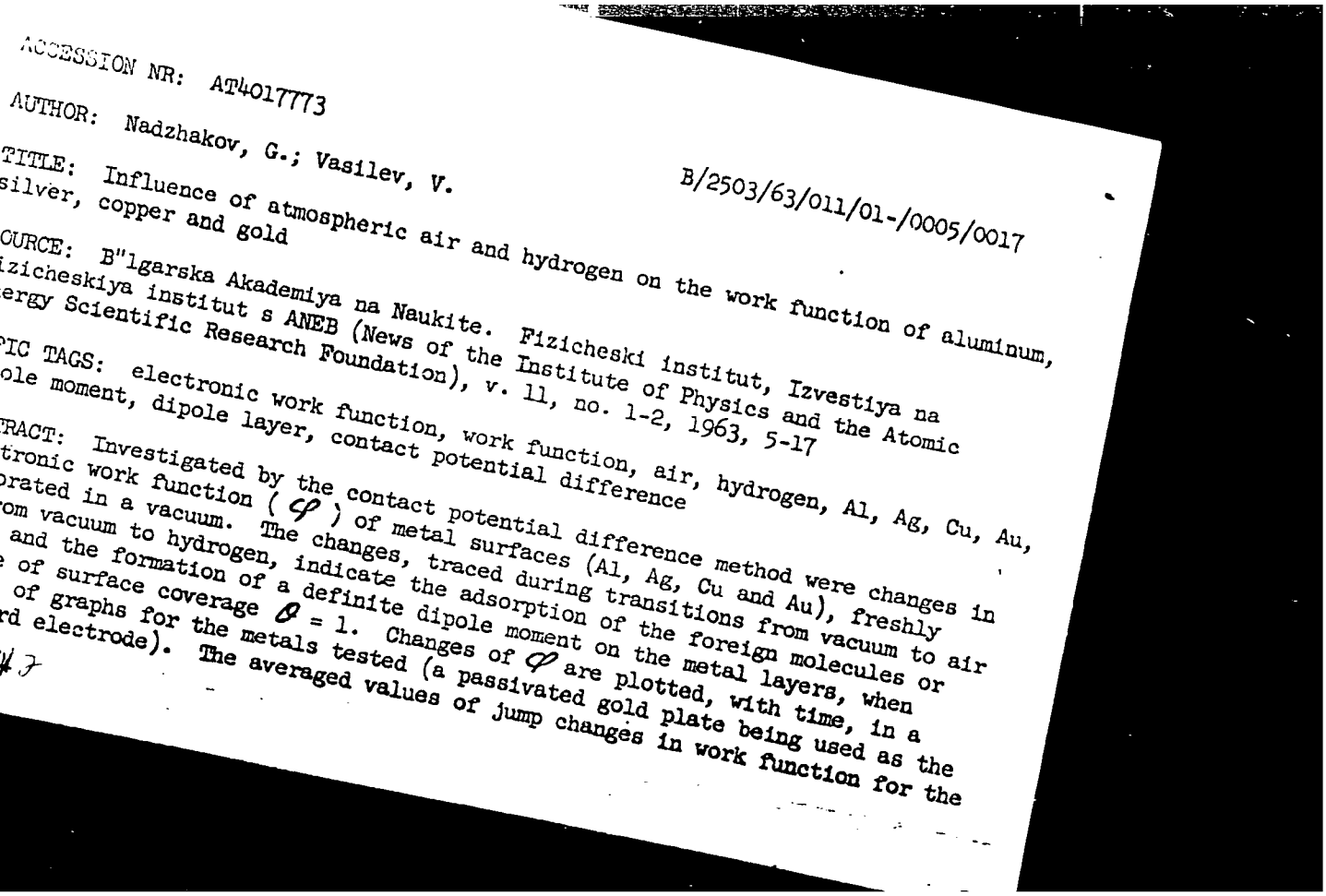
NADZHAKOV, Georgiy, akademik (Bolgariya)

In the first lines of fighters for peace. Priroda 51 no.9:26-27 S '62. (MIRA 15:9)

(Disarmament—Congresses)

NADZHAKOV, Georgi, akad.

Professof Linus Pauling, winner of the Nobel Peace Prize, and the atomic threat. Nauch. zhivot 6 no.4:2-4 O-D '63.



ACCESSION NR: AT4017773

AUTHOR: Nadzhakov, G.; Vasilev, V.

B/2503/63/011/01-/0005/0017

TITLE: Influence of atmospheric air and hydrogen on the work function of aluminum, silver, copper and gold

SOURCE: B"lgarska Akademiya na Naukite. Fizicheski institut, Izvestiya na fizicheskiya institut s ANEB (News of the Institute of Physics and the Atomic Energy Scientific Research Foundation), v. 11, no. 1-2, 1963, 5-17

TOPIC TAGS: electronic work function, work function, air, hydrogen, Al, Ag, Cu, Au, dipole moment, dipole layer, contact potential difference

ABSTRACT: Investigated by the contact potential difference method were changes in electronic work function (φ) of metal surfaces (Al, Ag, Cu and Au), freshly evaporated in a vacuum. The changes, traced during transitions from vacuum to air from vacuum to hydrogen, indicate the adsorption of the foreign molecules or and the formation of a definite dipole moment on the metal layers, when of surface coverage $\theta = 1$. Changes of φ are plotted, with time, in a of graphs for the metals tested (a passivated gold plate being used as the rd electrode). The averaged values of jump changes in work function for the

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ACCESSION NR: AT4017773

four metals studied are given in Table 1 of the Enclosure. Computed with the use of formula

$$\mu = \frac{\Delta\varphi_1}{2\pi n_s} = \frac{\varphi_1 - \varphi_0}{2\pi n_s},$$

were changes occurring in an effective dipole moment formed when air or hydrogen was adsorbed on Al, Ag, Cu and Au. The work shows that the initial values of work function φ on a surface (with $\Theta = 0$) must be known in order to obtain more accurate alues of the changes observed in electronic work function during the adsorption of particular gas on a metal plate or to obtain the values of the dipole moments deved therefrom. This requires that the metal be evaporated in a high degree of cuum. It is noted, in conclusion, that analogous investigations will be continued future under ultra-high vacuum. Orig. art. has: 9 figures, 10 equations, and 2 les.

OCIATION: none

MITTED: 20Dec62

CODE: PH, GE

DATE ACQ: 04Mar64

NO REF SOV: 002

ENCL: 02

OTHER: 007

2/4 7

NADZHAKOV, G., akad.

Controlled thermonuclear reactions in the power engineering of the future. Priroda Bulg 12 no.3:3-12 My-Je '63.

1. Glaven redaktor, "Priroda".

NADZHAKOV, Georgi, akad.

Prof. L. K. Pauling, winner of the Nobel Prize for Peace, and atomic threat. Priroda Bulg 12 no. 6:3-6 N-D '63.

1. Chief Editor, "Priroda".

NADZHAKOV, G., akad.; BALABANOV, S.

Influence of water vapors on photoelectret state. Doklady BAN 16 no.1:19-22 '63.

1. Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy Akademii nauk" (for Nadzhakov).

NADZHAKOV, G., akad.; VASILEV, V.; TONCHEVA, L.

Changes in the work function caused by its warming up in the air. Doklady BAN 16 no. 4: 349-352 '63.

1. Chlen redaktsionnoy kollegii, "Doklady Bolgarskoy Akademii nauk".

NADJAKOV, G. [Nadzhakov, G.], akad.; VASILEV, V. [Vasilev, V.]

Effect of atmospheric air and H_2 on work function of Al, Ag, Cu and Au. Doklady BAN 16 no. 4: 353-356 '63.

NADZHAKOV, G., akad.; BALABANOV, S.

Capturing adsorption ions on the sulfur surface. Doklady BAN 16 no.6:585-588 '63.

1. Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy akademii nauk (for Nadzhakov).

NADZHAKOV, Georgi, akad.

Role played by scientists today, and necessity for international scientific cooperation. Nauch zhivot 7 no.4:10-13 O-D '64.

NADZHAKOV, Georgi, akad.

Bulgarian physics in the 20 years of the socialist revolution, from September 9, 1944 to date. Priroda Bulg 13 no.4:6-12 Jl-Ag '64.

1. Director, Institute of Physics and Atomic Research Laboratory of the Bulgarian Academy of Sciences.

N[illegible], Georgi, akad.

[illegible] highly qualified [illegible] s [illegible]able. Nauka [illegible] mladezh 16 no.[illegible] 3-5 [illegible]

NADZHAKOV, G.; ANTONOV, A.; ZADAROZHNYY, G. [Zadarozhnii, G.]; KONOVA, A.; PAKEVA, S.; YUSKESELIYEVA, L. [IUskeselieva, L.].

A new type of two-layer electret. Doklady BAN 17 no.4:365-368 '64.

NADJA [illegible], [illegible], G. [illegible]; BALABANOV, S.; KITOV, A.

[illegible] of the relief of the support on the work [illegible] of [illegible] metallic layers. Dokl [illegible] BAN [illegible] no.6:545-548 '64.

L 5411-65 EWT(1)/EWT(m)/EEC(b)-2/T/EWP(t)/EWP(b)/EWA(c) Pi-4 IJP(c) JD/GG
ESSION NR: AP5010733 UR/0181/65/007/004/1193/1197
(B)
28
27
13

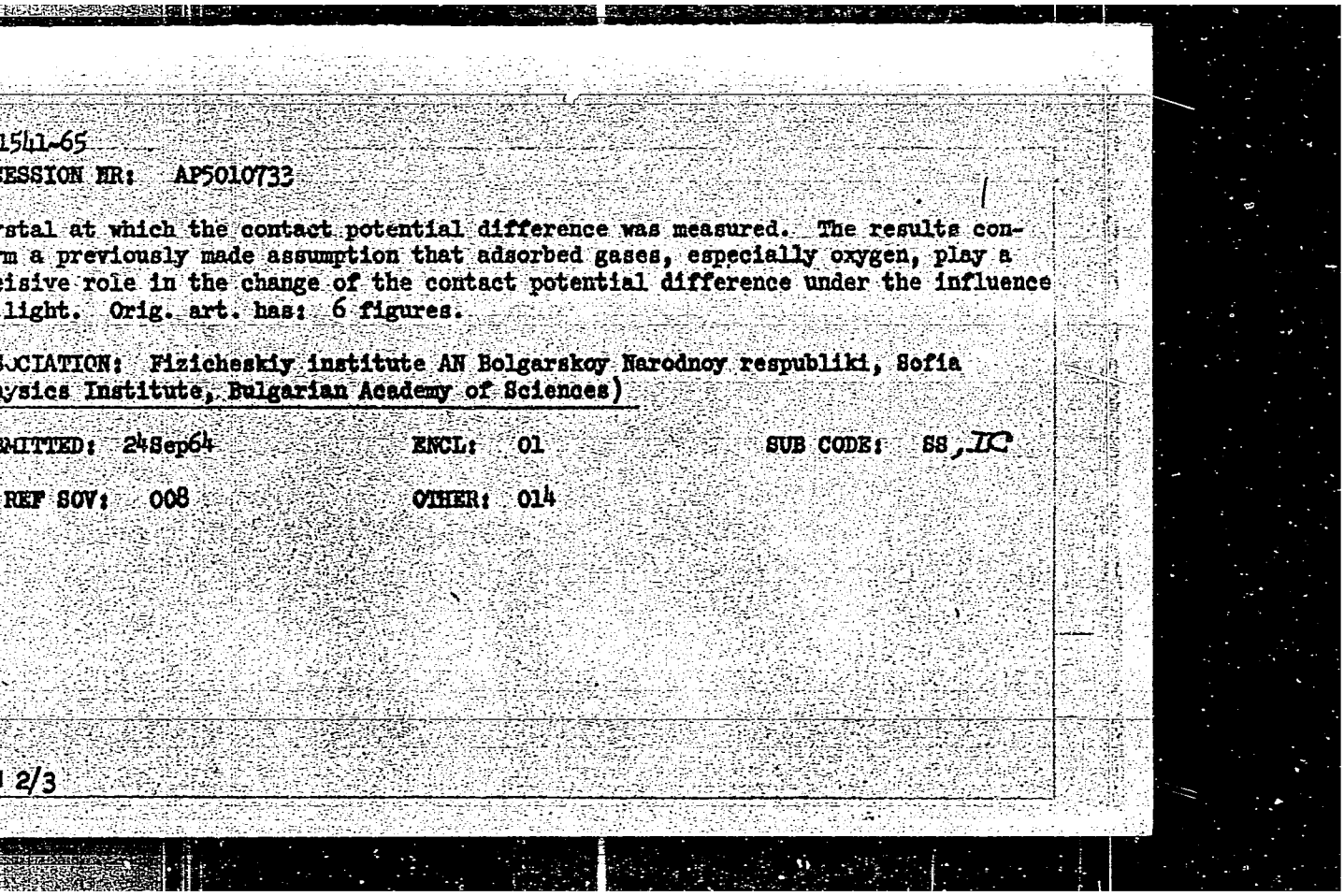
HOR: Nadzhakov, G.; Balabanov, S.

LE: On a procedure for measuring the contact potential difference and its variation under the influence of light in single-crystal cadmium sulfide

RCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1193-1197

IC TAGS: cadmium sulfide, contact potential difference, light effect, single stal

TRACT: The light-induced variation of the contact potential difference in CdS gle crystals was investigated by means of a new type of electronic electrometer h rotating capacitor, developed by the authors and shown in Fig. 1 of the Enure. The method of preparing the sample for the test is described. In vacuum 10^{-2} mm Hg), the contact potential difference decreased gradually over the entire estigated spectrum interval (350--600 mm). The sign of the effect changed from itive to negative when the wavelength exceeded 650 nm. Heat treatment in air uces the contact potential difference appreciable at short wavelengths but not longer ones. The effect was found to be highly sensitive to the surface of the



1541-65
ESSION NR: AP5010733

rstal at which the contact potential difference was measured. The results con-
m a previously made assumption that adsorbed gases, especially oxygen, play a
isive role in the change of the contact potential difference under the influence
light. Orig. art. has: 6 figures.

OCIATION: Fizicheskiy institute AN Bolgarskoy Narodnoy respubliki, Sofia
ysics Institute, Bulgarian Academy of Sciences)

MITTED: 24Sep64 ENCL: 01 SUB CODE: SS, IC

REF SOV: 008 OTHER: 014

2/3

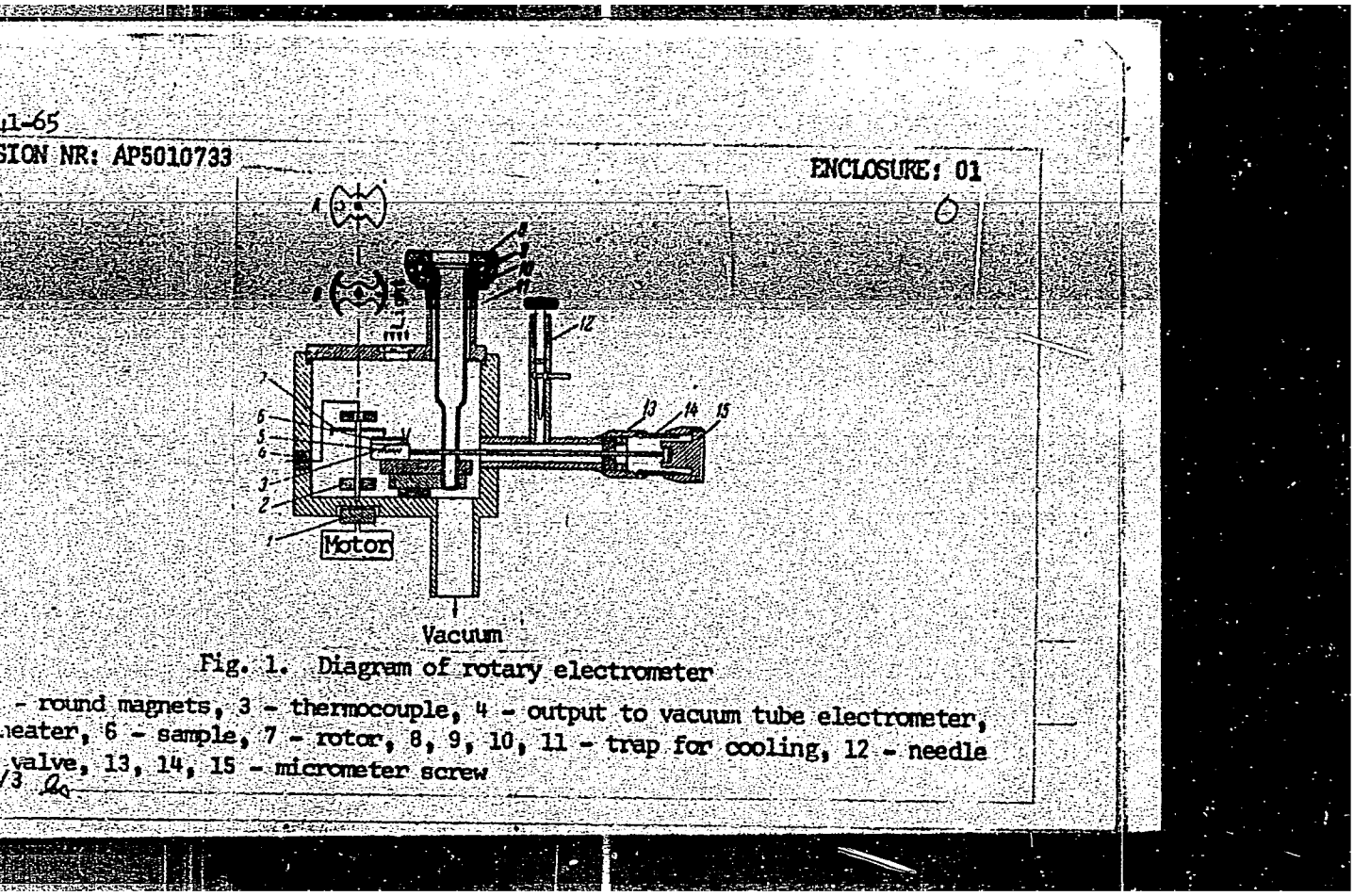


Fig. 1. Diagram of rotary electrometer

- round magnets, 3 - thermocouple, 4 - output to vacuum tube electrometer, heater, 6 - sample, 7 - rotor, 8, 9, 10, 11 - trap for cooling, 12 - needle valve, 13, 14, 15 - micrometer screw

36027-66 T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6027347 SOURCE CODE: BU/0011/65/018/012/1087/1090

AUTHOR: Nadzhakov, G.; Antonov, A.; Pakova, S.; Konova, A.

ORG: none

TITLE: Conservation of the homocharge during the dark polarization of sulfur monocrystals

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 12, 1965, 1087-1090

TOPIC TAGS: dielectric polarization, photoelectret, electric field, single crystal

ABSTRACT: The creation of photoelectret states within dielectrics is accompanied by dark polarization, i.e., polarization in darkness by means of applied electric fields. During such polarization the surface may acquire hetero- as well as homocharges. G. Nadzhakov et al. (Dokl. BAN, 15, 1962, no. 8, 805) assumed earlier that the applied high voltage causes the ions within the dielectric to be absorbed. The present investigation studied, consequently, in more detail, the creation and decay (in time) of the homocharge during dark polarization of sulfur monocrystals. Diagrams present the time dependence of the polarization, depolarization, and homocharge decay with the applied voltage (1-5 kV) as parameter. The paper ends with a brief discussion of the results. Orig. art. has: 4 figures. [JPRS: 36,465]

SUB CODE: 09, 20 / SUBM DATE: 21Sep65 / ORIG REF: 003 / SOV REF: 003
OTH REF: 002

Card 1/1 MLP

L 34668-66 T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6014717 SOURCE CODE: BU/0011/66/019/001/0013/0016

57
B

AUTHOR: Nadzhakov, G.; Konova, A.; Pakeva, S.

ORG: Sofia University, Physics Department (Fizicheskiy fakul'tet, Sofiyskiy Universitet)

TITLE: Photoelectret effect in small cadmium sulfide single crystals

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 1, 1966, 13-16

TOPIC TAGS: photoelectret, semiconductor research, semiconductor single crystal, cadmium sulfide, dielectric property, single crystal

ABSTRACT: Small cadmium sulfide single crystals dispersed in araldite resin were studied to determine whether a photoelectret effect can be produced in small single crystals as in large ones. The measurement results show that 1) one part CdS to three parts resin is the most effective ratio, 2) the permanent polarization varies from sample to sample depending on the ratio of CdS to resin, 3) photo-polarization saturation depends on polarization time regardless of illumination intensity and is characteristic of the given sample, 4) the reciprocity law holds for an extensive region which increases with the percent content of resin to CdS, and

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ACC NR: AP6014717

5) all the samples have a heterocharge and the photopolarization values do not depend on the voltage polarity. The results lead to the conclusion that the photoelecret effect can be produced in small single crystals as in large single crystals but that the materials employed must have a high dark specific resistance. Orig. art. has: 4 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 21Sep65/ ORIG REF: 001/ SOV REF: 007/

Card 2/2

ACC NR: AP6032643 SOURCE CODE: BU/0011/66/019/007/0579/0582

AUTHOR: Kashukeyev, N.; Nadzhakov, G.

ORG: Physics Institut of the Bulgarian Academy of Sciences (Fizicheskiy Institut Bolgarskoy akademii nauk)

TITLE: One possibility of making the absolute energy calibration of semiconductor detectors for fission fragments

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 7, 1966, 579-582

TOPIC TAGS: detection, detection system, detection equipment, semiconducting material, semiconductor alloy, fission product

ABSTRACT: The article proposes a method for the absolute calibration of silicon detectors for measuring the energies of fission fragments which can be used when the method described in previous publications cited in text is not applicable. It is known that the relation $E=\frac{MV^2}{2}$ is in force for the mass, velocity and energy corresponding to the maxima of the light and heavy peaks in the mass, velocity and energy distributions, i.e., the behavior of the fission particles is such that they seem to correspond to given, real particles. On the basis of one example, it is shown that with a certain degree of accuracy, all points for which the relative yield $W = A/A_m$ is

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ACC NR: AP6032643

the same in all types of spectra have this property. It is attempted to give the mathematical proof of this affirmation. In practice, only points in the upper three quarters of the maxima are used for calibration as they exhibit the greatest statistical effect and are less subject to errors due to background and other factors. This method was tried using experimental results for ^{252}Cf given in a previous investigation. A comparison of the results shows that for masses the ordinates of which are greater than $3/4\ A_m$, the agreement is good. "In conclusion I express my thanks to Nataliya Yanevaya, member of the scientific staff, and to Nedelka Pancheva, physicist". Orig. art. has: 1 figure, 1 formula and 1 table.

SUB CODE: 20/ SUBM DATE: none/ SOV REF: 002/ OTH REF: 009

Card 2/2

CC NR: AP6032643 SOURCE CODE: BU/0011/66/019/007/0579/0582

AUTHOR: Kashukeyev, N.; Nadzhakov, G.

ORG: Physics Institut of the Bulgarian Academy of Sciences (Fizicheskiy Institut Bolgarskoy akademii nauk)

TITLE: One possibility of making the absolute energy calibration of semiconductor detectors for fission fragments

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 7, 1966, 579-582

TOPIC TAGS: detection, detection system, detection equipment, semiconducting material, semiconductor alloy, fission product

ABSTRACT: The article proposes a method for the absolute calibration of silicon detectors for measuring the energies of fission fragments which can be used when the method described in previous publications cited in text is not applicable. It is known that the relation $E=\frac{MV^2}{2}$ is in force for the mass, velocity and energy corresponding to the maxima of the light and heavy peaks in the mass, velocity and energy distributions, i.e., the behavior of the fission particles is such that they seem to correspond to given, real particles. On the basis of one example, it is shown that with a certain degree of accuracy, all points for which the relative yield $W = A/A_m$ is

Card 1/2

he same in all types of spectra have this property. It is attempted to give the athematical proof of this affirmation. In practice, only points in the upper three uarters of the maxima are used for calibration as they exhibit the greatest statis- ical effect and are less subject to errors due to background and other factors. his method was tried using experimental results for ^{252}Cf given in a previous inves- igation. A comparison of the results shows that for masses the ordinates of which re greater than 3/4 A_m, the agreement is good. "In conclusion I express my thanks o Nataliya Yanevaya, member of the scientific staff, and to Nedelka Pancheva, hysicist". Orig. art. has: 1 figure, 1 formula and 1 table.

SUB CODE: 20/ SUBM DATE: none/ SOV REF: 002/ OTH REF: 009

GUSEYNOV, B.Z.; NADZHAFOV, Sh.G.

Effect of saturation irrigation and mineral nutrition on photosynthesis and the movement of assimilates in white mulberry under the arid conditions of the Apsheron Peninsula. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.2:3-8 '62. (MIRA 17:6)

NADZHAKOV, IE. G.

5A
Sect B

Instruments

621.317.723

2116. New system of quadrant electrometers. G. NADZHAKOV, E. G. NADZHAKOV AND P. ILKOV. *C.R. Acad. Bulg. Sci.*, 3, 13–18 (*April–June and Oct–Dec.*, 1950) *In Russian.*

Special quadrant surfaces have been found for which the derivatives of the capacitances with respect to the angle are linear functions of the angle. It follows that the electric restoring torque is independent of angle and the scale remains linear. Good agreement was obtained between theory and experiment. A.

NADZHAKOV, E. G.

"A two-dimensional electrostatic problem and its application in electrometry."

IZVESTIIA. SERIIA FIZICHESKA, Sofiia, Bulgaria, Vol. 6, Jan./Dec. 1956 (published 1957).

Monthly List of East European Accessions Index (EEAI), The Library of Congress, Volume 8, No. 8, August 1959.

Unclassified

S/058/61/000/010/090/100
A001/A101

AUTHORS: Nadzhakov, G., Nadzhakova, Ye.G.

TITLE: Symmetric electrometric method of measuring contact potential difference

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 283, abstract 10Zh4 ("Izv. Bolg. AN. Otd. fiz.-matem. i tekhn. n. Ser. fiz.", 1959, v.7, 269-281, Bulgarian, Russian and French summaries)

TEXT: The authors propose a change of the asymmetric method of measuring contact potential difference described earlier (Nadzhakov, G., "Izv. Bolg. AN", Ser. fiz., 1961, v. 2, 341-356). Torsional compensation, used earlier, is employed again with the difference that the voltage being measured in the first method plays here the role of auxiliary one, the additional contact potential difference, existing between the quadrant pair and the needle, is measured, as well as the voltage applied to compensate this difference. An ordinary connection is employed instead of the double one; the auxiliary voltage is applied only to one pair

Card 1/2

...ric electrometric method ...

...adrants, the second pair and the needle being grounded. Experimental results ... presented, which show that the method assures a higher accuracy of measure... than other methods employed up to now.

V. K.

...ranter's note: Complete translation]

24.6300

68159

AUTHORS: Nadzhakov, Ye. G., Barinskiy, R. L. 307/20-129-[illegible]-22/[illegible]

TITLE: A New Method of Computing X-Ray [illegible] of Absorption

PERIODICAL: Doklady Akademii nauk S SR, [illegible], Vol [illegible], Nr 6, pp 1279-1282 (USSR)

ABSTRACT: E. Ye. Vaynshteyn and K. I. Marbutt (Ref 3) found the theoretical formula $\vartheta_n = f(Z,\eta)\frac{n^2-1}{n^5}$ for the intensity ϑ_n of the successive absorption lines in the K-edge. N denotes the main quantum number, η the charge of the K-ionized atom, Z its nuclear charge number. R. L. Barinskiy and the initially mentioned authors (Ref 4) added the Rydberg formula to the above formula for the absorption of lines $\varepsilon_n = \varepsilon_\infty - (n^2/n^{*2})Ry$ Here ε_n denotes the energy of the 1s-np transition: ε_∞ the energy of transition to the boundary of the continuous spectrum, n^* the effective quantum number, Ry the Rydberg constant (13.6 ev)

Card 1/4 The authors proceed from the physical conception that a hole

A New Method of Computing X-Ray K-Spectra of Absorption

SOV/20-129-6-22/69

in the K-shell of the absorbing atom may lead to the formation of a system of levels that are different from the levels of the molecules. In the present paper a new formula for τ_n/τ_∞ is derived. A formula for the transition probability is written down. Dipole transitions are investigated. After some steps one finds $\vartheta_n = (4\pi^2 e^2 \varepsilon_n / c\,h) \sum |(r_e)_{1s,np}|^2$, where $(r_e)_{1s,np}$ is the matrix element of the component r_e of the radius vector in the direction of polarization for the transition from the state 1s into the state np. Summation is carried out over all np states. Here, $\sum |(r_e)_{1s,np}|^2 =$

$= g\left[\int_0^\infty r^3 R_{1s}(r) R_{np}(r) dr\right]^2$ holds. R_{1s} and R_{np} denote the normalized radial component of the eigenfunctions of the corresponding states. The authors make use of the well-known fact that in the case of equal density the discrete and the continuous

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spectrum have the same limit, i. e. $\lim_{\varepsilon \to \varepsilon_\infty} \tau(\varepsilon) = \lim_{n \to \infty} \frac{n}{n+1^{-\varepsilon_n}}$.

Herefrom an expression is found by boundary transition for ε_∞. After some steps the final formula $\frac{\tau_n}{\tau_\infty} = \frac{4\eta^2}{\pi\Gamma_n} \frac{n^2 - 1}{n^5}$ is obtained, where $\Gamma_n = 2\gamma_n/Ry$ denotes the width of the n-th line in Rydbergs. By means of the second and the last formula it is then possible to determine η and n from the experimental curve of K-absorption. In this calculating method the approximations are connected with the hydrogen model. This method was checked by means of the spectra of atoms with a previously known charge, and the results obtained by calculating n and the effective charge η are given in table 1. Figure 1 shows the K-spectra of Ar and Zn^{++} in solution. A difference of 0.05 η already noticeably deteriorates approximation. In those cases in which zero charge is to be expected, and also for Zn^{++} (where

New Method of Computing X-Ray K-Spectra of Absorption

a +2 charge is expected), this calculation method gives very good results in spite of its approximate character. These facts, and also the agreement between experimental and theoretical curves confirm the formula last written down. There are 1 figure, 1 table, and 10 references, 6 of which are Soviet

SSOCIATION: Fizicheskiy institut Bolgarskoy Akademii nauk (Physics Institute of the Bulgarian Academy of Sciences) Institut redkikh elementov Akademii nauk SSSR (Institute of Rare Elements of the Academy of Sciences of the USSR)

RESENTED: August 18, 1959, by N. V. Belov, Academician

UBMITTED: August 15, 1959

ard 4/4

S/048/60/024/04/07/009
B006/B017

AUTHORS: Barinskiy, R. L., Nadzhakov, Ye. G.

TITLE: Calculation of the Atomic Charge in Molecules According to the X-Ray Absorption K-Spectra

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 4, pp. 407-414

TEXT: The present article is a reproduction of a lecture delivered at the 4th All-Union Conference on X-Ray Spectroscopy (Rostov-na-Donu, June 29 - July 6, 1959). In a previous paper (Ref. 1) the authors suggested a new method of calculating the X-ray absorption K-spectra of atoms in molecules, which makes it possible to determine quantum number and total charge of the absorbing atom. This method has already been applied to some simple cases (free argon- and neon atoms, Cl_2 and Br_2 molecules, and Zn^{2+} in solution). In the present paper, the absorption spectra of atoms in complex molecules (gases, crystals) are computed by this method in a case in which the atomic charge is not known in advance. For this

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purpose such molecules are selected for which it can be assumed that the field in the neighborhood of the absorbing atom deviates only inconsiderably from central symmetry. In this case the K-absorption spectrum can be well approximated by means of a Rydberg series of absorption lines and a true edge, as demonstrated in Ref. 1. This assumption is also confirmed by the agreement between theoretical and experimental results. The formulas used for computations are also taken from Ref. 1. Numerical results are compiled in a table. Here, n denotes the quantum number, and η' the effective charge at the periphery of the atom. For comparison, the charges according to Pauling are given. Absorption K-spectra are reproduced in diagrams. In all diagrams, the solid line indicates the experimental shape, the broken line the theoretically calculated shape, and the fine solid curve shows the course of the true edge and the absorption lines. Fig. 1: Cl_2 ($\eta' = 0.0$) and HCl ($\eta' = 0.2$); Fig. 2: Br in $ZnBr_2$ ($\eta' = 0.2_4$), and Zn in $ZnBr_2$ ($\eta' = 0.5$); Fig. 3: Br in $GeBr_4$ ($\eta' = 0.1_5$), and Ge in $GeBr_4$ ($\eta' = 0.7_5$); Fig. 4: Zn in $Zn(C_6H_5)_2$ ($\eta' = 0.2$), and Zn in $Zn(C_5H_7O_2)_2$ ($\eta' = 1.6$); Fig. 5: Fe in $Fe(CO)_5$

Calculation of the Atomic Charge in Molecules According to the X-Ray Absorption K-Spectra

S/048/60/024/04/07/009
B006/B017

(η' = 0.4), and Fe in $K_3Fe(CN)_6$; and Fig. 6: Cr in $Cr(CO)_6$ (η' = 0.4), and Cr in K_2CrO_4 (η' = -0.1). There are 6 figures, 1 table, and 9 references: 5 Soviet, 2 American, and 2 West German.

ASSOCIATION: Institut redkikh elementov Akademii nauk SSSR (Institute of Rare Elements of the Academy of Sciences, USSR).
Fizicheskiy institut Bolgarskoy Akademii nauk (Physics Institute of the Bulgarian Academy of Sciences)

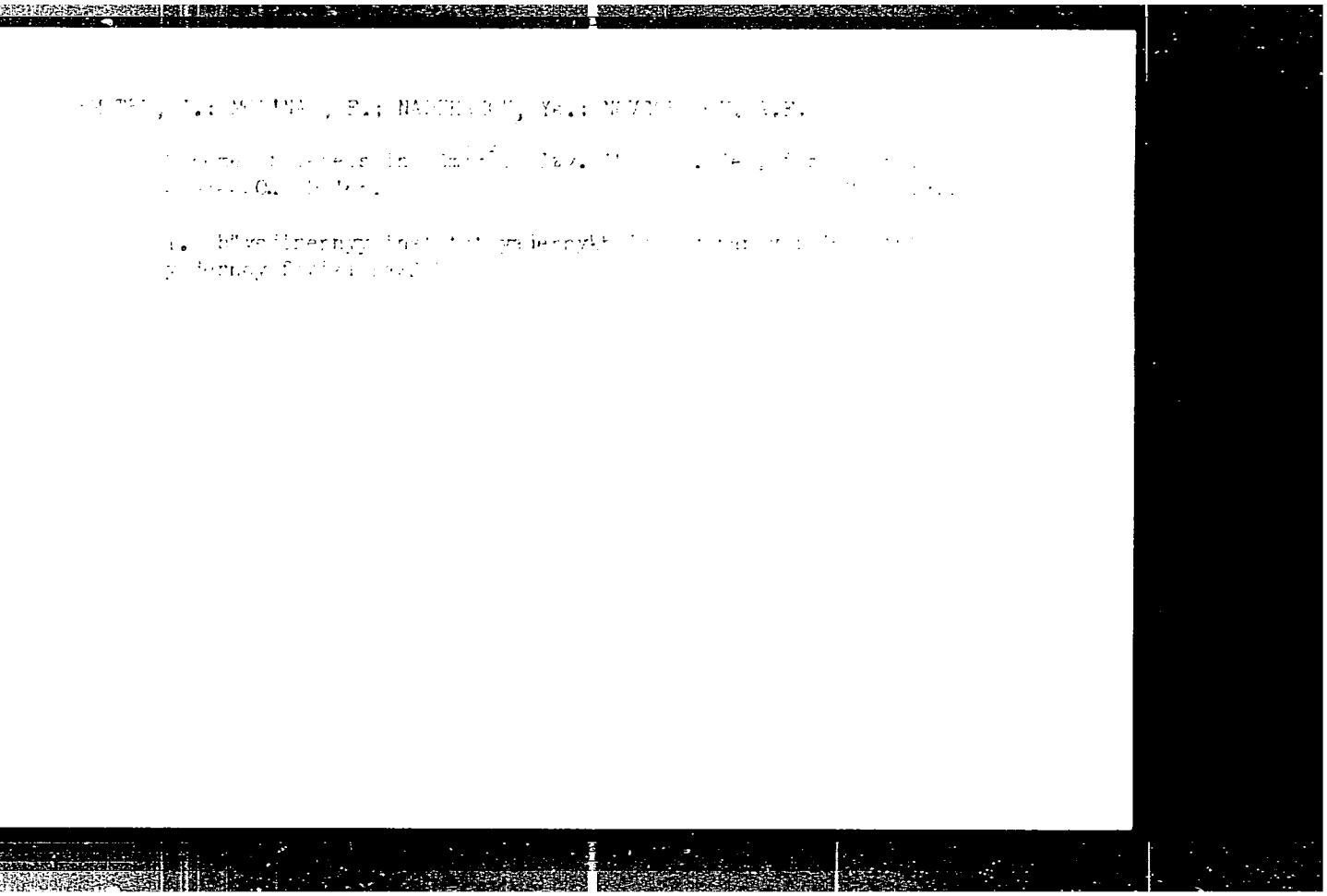
✓C

Card 3/3

GROMOV, K.Ya.; DEMETER, I.; NADZHAKOV, Ye.

The $\gamma\gamma$-angular correlations in $Pr^{138} \rightarrow Ce^{138}$ decay. Izv. AN SSSR. Ser. fiz. 29 no.7:1093-1097 Jl '65. (MIRA 18:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.



GINZBURG, I.I.; NADZHAKOVA, G.E.; NIKITINA, A.P.

Recent and ancient laterite weathering of basalts in Brazil and the Russian Platform. Kora vyvetr. no.4:3-95 '62.
(MIRA 15:9)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR.
(Brazil--Weathering) (Brazil--Basalt)
(Russian Platform--Weathering) (Russian Platform--Basalt)

MAKAROV, N.I.; SKLYAROV, V.Ya.; ALIKPEROVA, Sh.M.; NADZHAROV, A.F.; DZEBISASHVILI, Yu.I.; MNATSAKANYAN, A.G.; ODINOCHENKO, O.N.; AZUGAROVA, M.Kh.; ZYUZIN, A.S.

Morbidity from anthrax in animals and humans in Ciscaucasia and Transcaucasis in 1960-1961: authors' abstract. Zhur. mikrobiol. epid. i immun. 40 no.5:112-113 My '63. (MIRA 17:6)

1. Iz Nauchno-issledovatel'skogo protivochumnogo instituta Kavkaza i Zakavkazya, Azerbaydzhanskoy, Armyanskoy, Gruzinskoy, Severo-Osetinskoy, Checheno-Ingushskoy respublikanskikh sanitarno-epidemiologicheskikh stantsiy i Azerbaydzhanskoy protivochumnoy stantsii.

MAYLYAN, L. M.; GASANOV, A. S.; PIPIK, O. G.; ZOKHRABBYEKOV, Z. S.; MAKHMUDBYEKOV, L. A.; SHTUSS, A. A.; NADZHAROV, A. G.

30 Years of scientific, medical and pedagogic activity of I. S. Ginzburg. Khirurgiia, Moskva no.7:86-87 July 1951. (CIML 21:1)

1. Honored Worker in Science, Professor. 2. Chief Oncologist Azerbaydzhan SSR attached to the Ministry of Public Health, Member of the Central Committee of the Red Crescent, Chairman of the Oncological Section of Azerbaydzhan Medical Society, Member of the Learned Medical Council of the Ministry of Public Health of the Republic.

NADZHAROV, A.G.;AVERBUKH, R.I.

Tuberculosis of the stomach and duodenum. Khirurgiia, Moskva no.7:56-60 July 1953. (CLML 25:4)

1. Candidate Medical Sciences for Nadzharov. 2. Of Azerbaydzhan Scientific -Research Institute of Roentgenology, Radiology, and Oncology (Director -- Honored Worker in Science Prof. I. S. Ginsburg).

NADZHAROV, A.G.; ABASOV, I.T., kandidat meditsinskikh nauk

Cases of tuberculosis of the rectum. Sov.med. 21 no.4:128-130 Ap '57. (MLRA 10:7)

1. Iz Azerbaydzhanskogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii (dir. - dotsent M.M.Alikishibekov)
(TUBERCULOSIS, GASTROINTESTINAL, case reports
rectum)

NADZHAROV, A.G., kand.med.nauk (Baku, ul. Pervomayskaya, d.241, kv.24)
MAMIKONOV, M.G., kand.med.nauk

Six cases of pancreatic cysts. Nov.khir.arkh. no.3:90-92 My-Je '58.
(MIRA 11:9)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut rentgenologii i radiologii.
(PANCREAS--TUMORS)
(CYSTS)

ABASOV, I.T.; MADZHAROV, A.G.

Pernicious coma following gastrectomy for cancer in women with malignant anemia. Probl.gemat. i perel.krovi 3 no.1:55-56 Ja-F '58. (MIRA 11:3)

1. Iz Azerbaydzhanskogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii (dir. - dotsent M.M.Alikishibekov)

(ANEMIA, PERNICIOUS, complications,
cancer, postgastrectomy coma (Rus))
(GASTRECTOMY, complications,
coma in cancer with pernicious anemia (Rus))

NADZHAROV, A.G.

Diagnosis and treatment of insufficiency of anastomosis sutures following transthoracic resections of the stomach and esophagus in cancer. Khirurgiia 35 no. 11:33-40 N '59. (MIRA 14:1)
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(STOMACH--CANCER) (BLOOD PROTEINS)

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(STOMACH--SURGERY)

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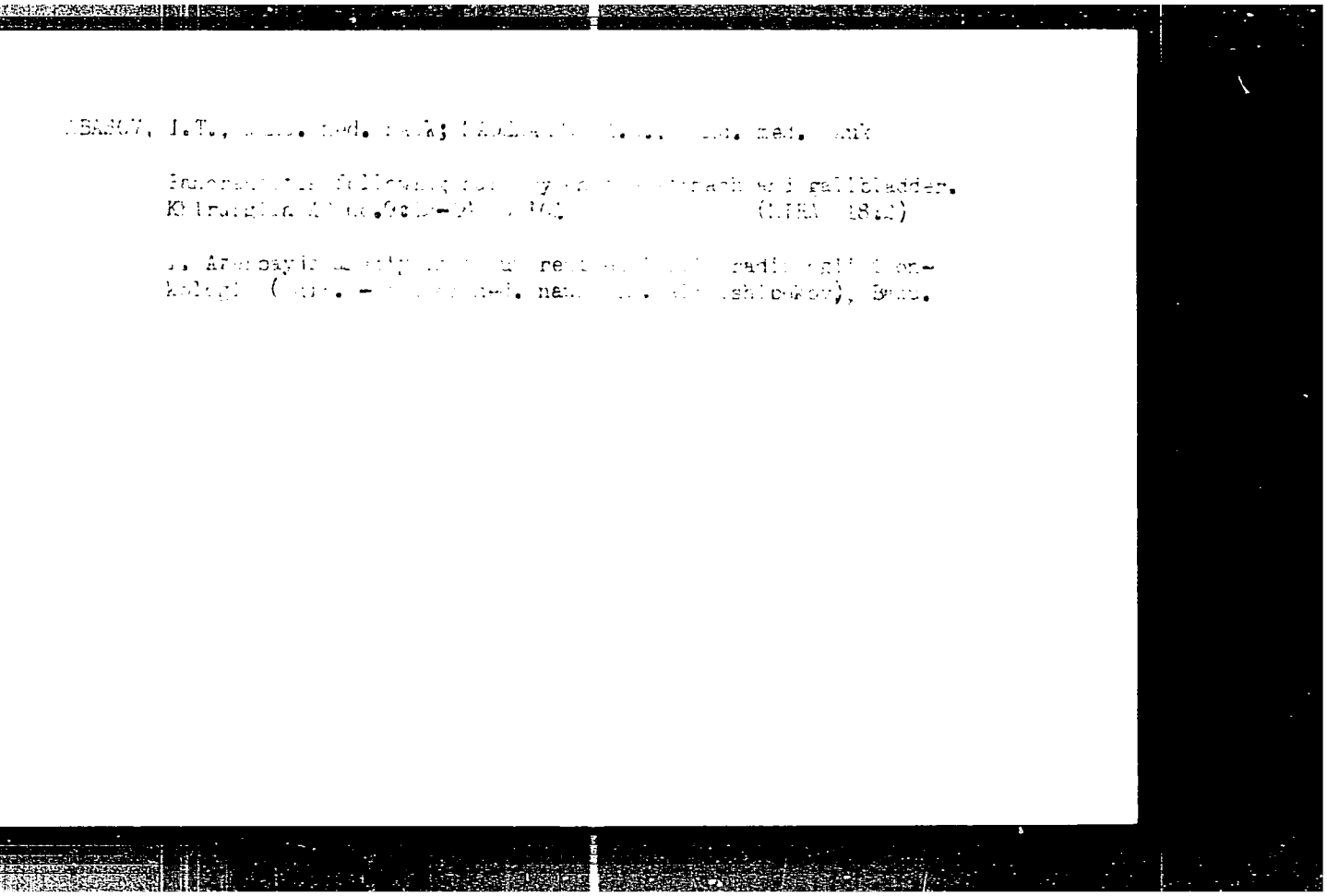

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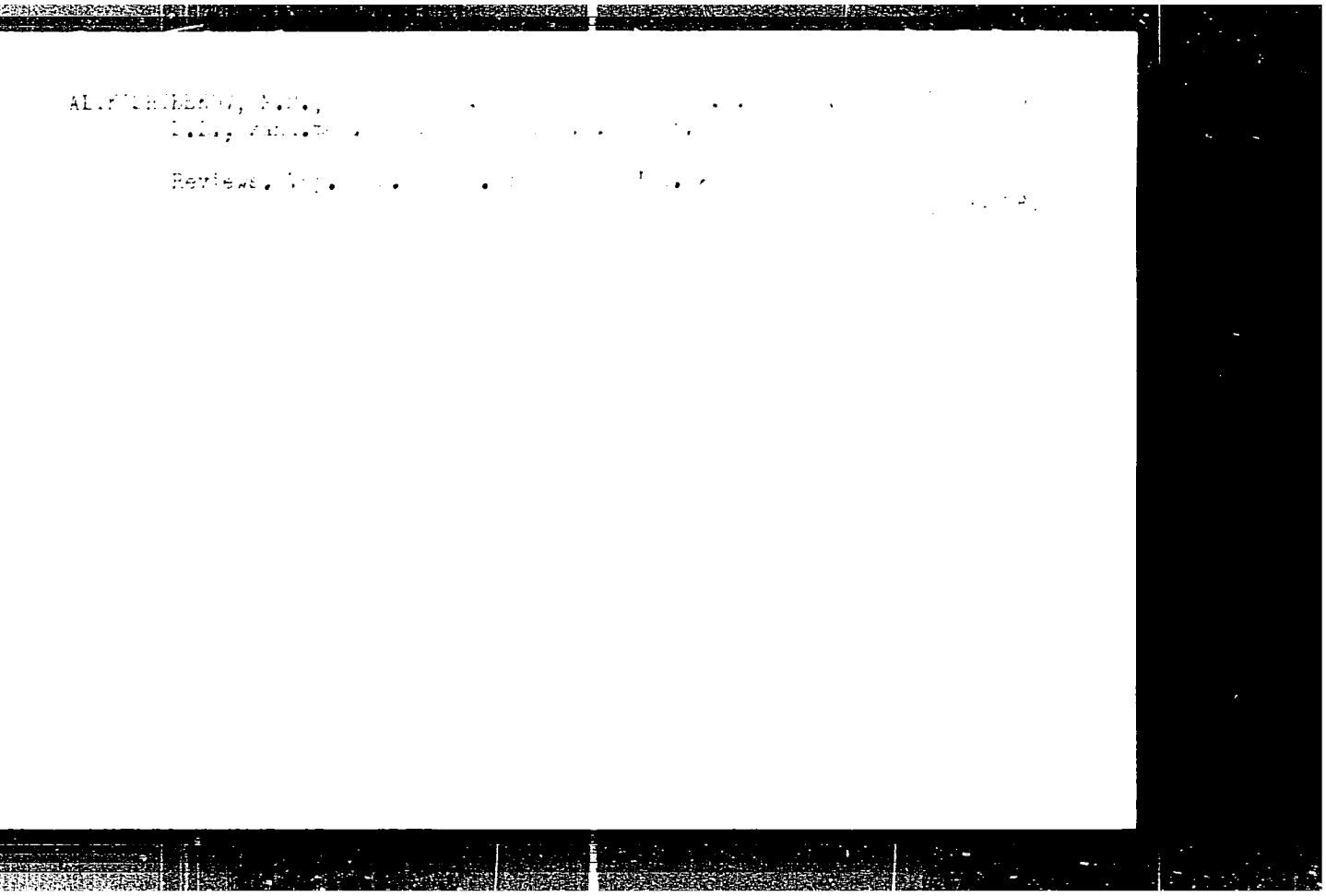

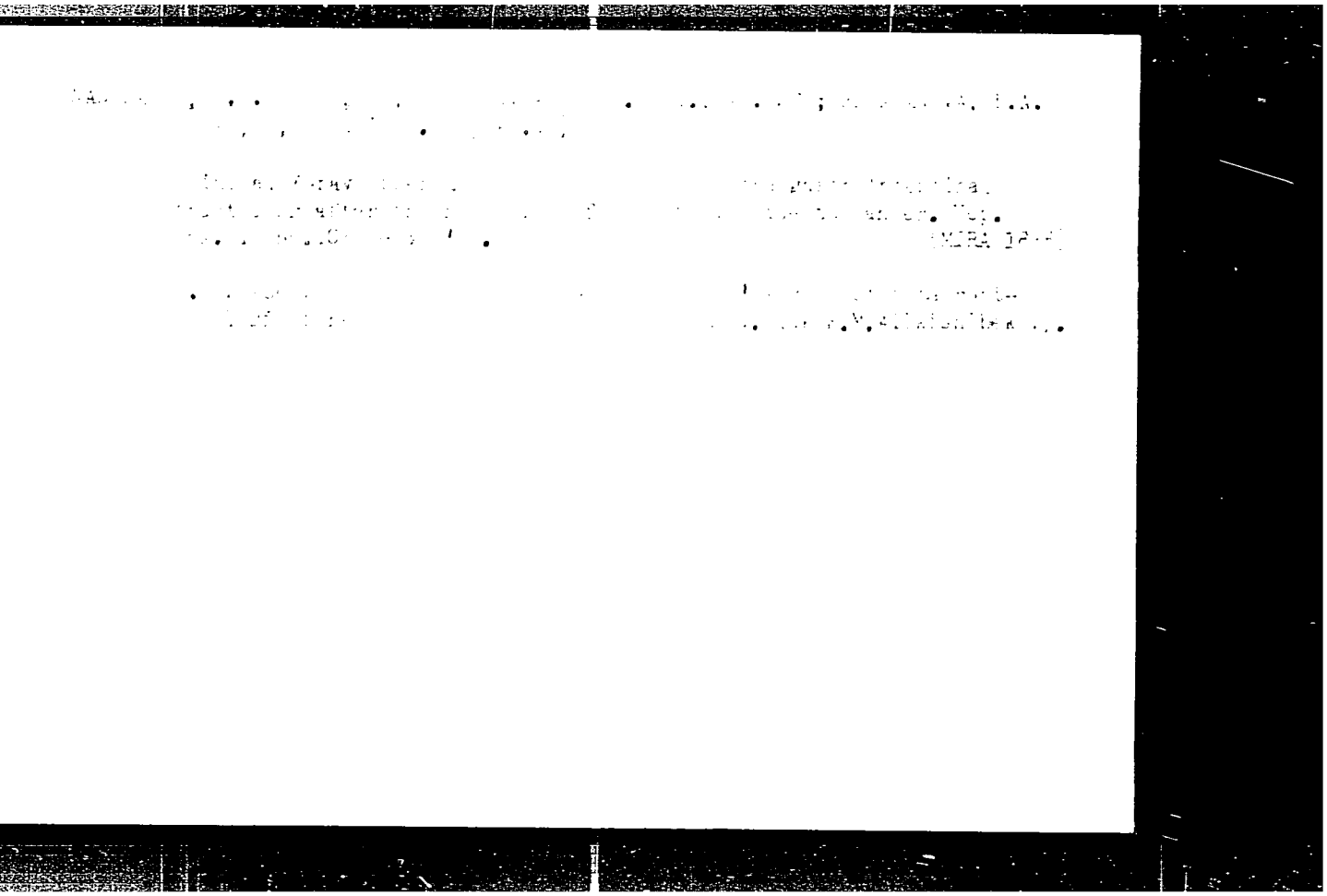

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ROV, M.A.

PA 5019

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Electricity
Hydroelectric Plants
Boilers

"Starting Tests and the Attachment of Blower Shafts to Powerful Boiler Assemblies," M.A. Nadzharov, Candidate Tech Sci, 7 pp

"Elektrichestvo Stantsii" No 12

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